

Threatened Archaeological Sites in the Mountain Parks

1996 Jasper-University of Alberta Field School excavations in progress.

Over the past three years, the Threatened Archaeological Sites Programme has become an important aspect of the practice of cultural resource management in the national parks of the Canadian Rocky Mountains. This article will describe two multi-year projects from that programme which were instigated in response to natural rather than anthropogenic threats to significant aboriginal archaeological resources. The Scalp Creek Threatened Sites Project located at the Ya-Ha-Tinda Ranch Crown Leasehold has been approached as a mitigative and research study. The Snake Indian River Threatened Sites Project, located in Jasper National Park, has evolved to a focus for academic teaching and postgraduate research within a partnership initiative between Parks Canada and the University of Alberta.

A threatened *in situ* archaeological resource has been defined by Parks Canada archaeologists as "a site containing significant cultural resources that are threatened with premature damage or destruction within the next ten years as the result of accelerated erosion, vandalism or changing patterns of use" (Lindsay 1988: Appendix A). A National Threatened Archaeological Sites List is maintained by the Federal Archaeology Office in Ottawa; annual updates and revisions to that inventory are provided by the six regional Parks Canada Archaeological Services offices.

Mitigative measures to address threats to *in situ* archaeological resources can take the form of

either an attempt to stabilize the site in its present state or an excavation to record artefacts and contextual information before irretrievable loss. The

factor of cost for site stabilization usually precludes that sort of protective approach, but occasionally a combination of site stabilization and archaeological intervention measures has been employed (e.g., Francis and Langemann 1993). In the case of both projects discussed herein, stabilization of the site environment was impractical due to the severity and extent of the erosion.

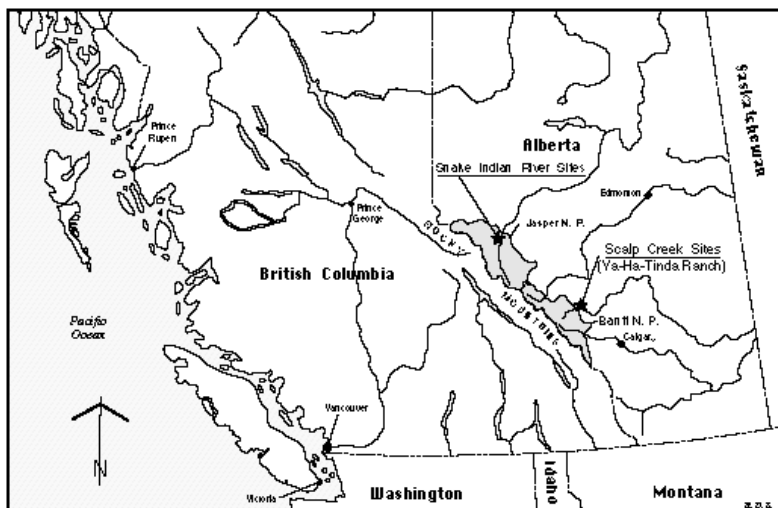
Scalp Creek Threatened Sites Project

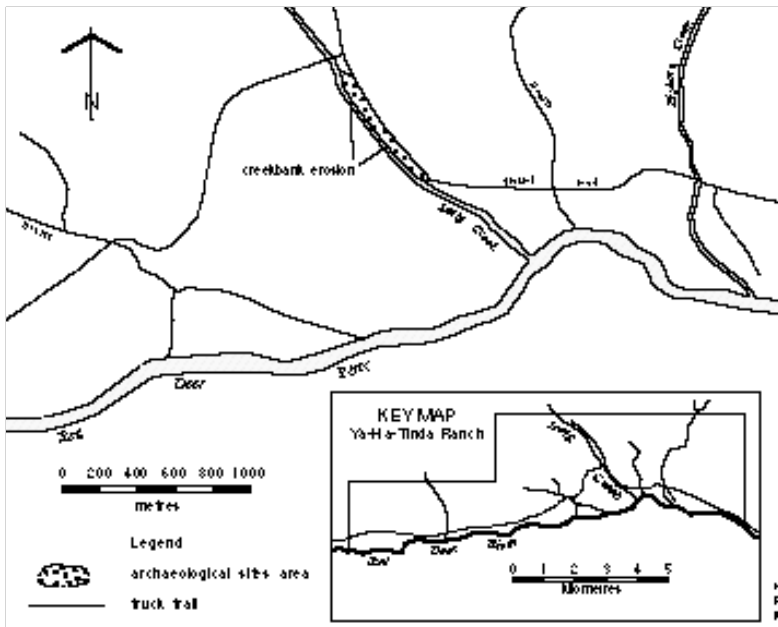
The Upper Red Deer River Valley is a promising area within the Eastern Slopes region of the Canadian Rocky Mountains for yielding scientific evidence for human activity that reaches back in time to the early peopling of North America. The first archaeological field work within this valley system, including Banff National Park and the adjacent Federal Crown leasehold, Ya-Ha-Tinda Ranch, identified evidence for prehistoric occupation throughout Postglacial times. More recently, the Archaeological Survey, Provincial Museum of Alberta has investigated a very early complex of archaeological sites in James Pass, immediately east of the Ya-Ha-Tinda Valley, with an age of 10,000 years for the earliest occupation (Ronaghan 1993; Beaudoin et al. 1996). It is within the context of this archaeological background that archaeologists from Parks Canada's Alberta Region initiated a programme of survey, excavation, and resource management of the Ya-Ha-Tinda Ranch (Francis and Magne 1993).

The Ya-Ha-Tinda Ranch is situated approximately 15 km east of the eastern boundary of Banff National Park, just inside of the East Front Ranges of the Canadian Rocky Mountains. Its name (i.e., from the Lakota [Stoney] language: *ya-ha*=mountain; *tinda*=prairie or meadow) describes a rolling grassland meadow surrounded by high mountain ranges. This tract remains one of the



Threatened archaeological sites programme in Alberta.





Location of Scalp Creek Threatened Sites Project.

very few unspoiled representatives of the Montane Ecoregion in Alberta. The ranch incorporates approximately one-fifth (i.e., 3,945 hectares or 9750 acres) of the valley floor area of the intermontane Ya-Ha-Tinda Valley. Since 1930, the ranch has been used by Parks Canada to breed, train, and overwinter horses used by the Warden Service of the western Canadian National Parks for backcountry patrol, and it remains the only federally operated horse ranch in Canada. The Scalp and Bighorn Creeks are the principal, perennial, tributary streams within the valley and, along with the Red Deer River, they have formed two broad valley terraces upon which most of the 60 known prehistoric sites recorded inside the boundaries of the ranch are located.

The archaeological sites along the lower valley terrace on the northeast side of Scalp Creek became a source of concern when it was realized that erosion along the landform involved catastrophic events rather than a steady incremental process. Seasonal high water flow cuts into soft,

friable late Jurassic sediments along the base of the river terrace causing large, localized areas of slumpage along the top of the landform. With sufficient undercutting and slumpage, whole columns of sediment measuring up to 15 metres in height collapse unpredictably into the valley floor. The eroding landform is approximately 2.5 km long upon which a dozen prehistoric sites are in immediate danger of partial or complete removal. In 1993, these endangered archaeological resources were placed on Parks Canada's National Threatened Sites List.

Archaeological sites along the edge of the landform are recognized by lithic artefacts and animal bones eroding out of the topmost metre of the exposed face of the terrace. Following initial archaeological resource impact assessments in 1992, the Scalp Creek Threatened Sites project was designed as a three-year mitigative strategy that was carried out over a 16-week period during the late springs and early summers of 1993, 1994, and 1996. Approximately 50 percent of test units placed at 10-metre intervals along the entire length of the landform produced stratified cultural materials. Seven localities received spatially extensive excavation over the course of the field work.

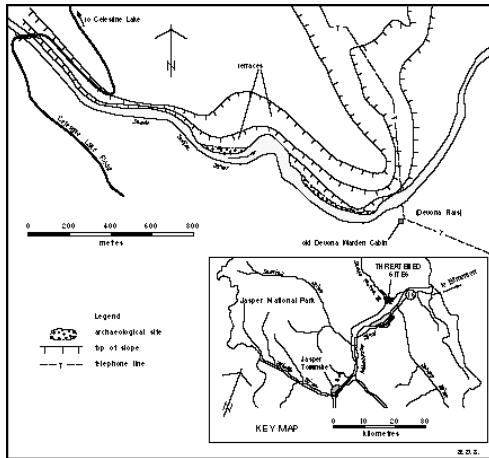
A common feature of all subsurface investigations is the presence of a well-defined layer of ash that appears as a discrete stratum within the excavation units and along much of the erosion face of the terrace. This is Mazama tephra, dated at 6850 BP, an ash layer serving as a horizon marker that can separate Early Prehistoric from Middle Prehistoric cultural material. Radiocarbon dates derived from below the tephra all pre-date 6850 BP, whilst assays derived from above the ash post-date that temporal marker.

From the most extensively excavated locality, the Gate Site, provisional interpretation of the evidence indicates at least four major components. The earliest occupation at this site is below the tephra layer with a single assay on bone collagen of $9,330 \pm 70$ (CAMS-19738), within the Early Prehistoric time range of either early classic Plains Alberta/Cody or late Agate Basin/Hell Gap, although no clearly "diagnostic" artefacts were recovered. The overlying ash layer is pocketed in a silty matrix although artefacts and bone are situated only in the silt and not within the pockets of tephra. This second occupation is provisionally assigned an Early Middle Prehistoric date on the basis of a single AMS date on collagen of $7,110 \pm 60$ (CAMS-12911). Additional radiocarbon determinations are forthcoming.

The third cultural layer overlies the ash layer and includes incomplete projectile points similar to a complete specimen recovered from a similar stratigraphic context farther along the landform.

View of erosion face of river terrace above Scalp Creek, Ya-Ha-Tinda Ranch. The Gate Site is situated at the top of the terrace.





Location of Snake Indian River Threatened Sites Project.

These projectile points are provisionally identified as Salmon River Side-Notched, associated with the Mummy Cave Complex and, thus, of Early Middle Prehistoric date. The fourth and stratigraphically most recent cultural layer at the Gate Site is an association of lithic artefacts with an extensive bone bed consisting of highly

processed bison bones. The temporal contexts of these components await forthcoming radiocarbon determinations.

Similar patterns of multi-component cultural and stratigraphic evidence were found at four of the six other sites investigated during the course of the three-year project. At three of the multi-component sites, including the Gate Site, there is material evidence for three additional minor components. Thus, there may be as many as seven occupational episodes within the study area (i.e., four major and perhaps three minor periods of activity). The early occupations along Scalp Creek appear to relate to a continuous cultural tradition with people exploiting the area in a similar manner over a long period of time. A different pattern of site usage is evident in the later occupations, possibly reflective of increased bison hunting.

The ongoing research of Parks Canada archaeologists at the Ya-Ha-Tinda Ranch coupled with the research of the Archaeological Survey of Alberta in the nearby James Pass Meadow (an isolated extension of the Ya-Ha-Tinda grasslands) are bringing into sharper resolution the nature and extent of the earliest human occupations within the Eastern Slopes region of the Canadian Rockies in central Alberta. With substantive evidence dating

back 10,000 years, such research has a bearing upon the compelling archaeological question about the early peopling of North America.

The Snake Indian River Threatened Sites Project, Jasper National Park

The Federal Archaeology Office in Ottawa provided funding in 1995-96 for an ongoing threatened sites project in Jasper National Park. Located on the north side of the Snake Indian River, two known prehistoric sites or multiple activity loci are positioned at each end of a 1.25 km-long, bench-like landform, although cultural material is eroding out of several exposures along much of the terrace edge. Marked deflation through wind erosion and hill wash along the edge of the landform is exposing large numbers of lithic artefacts and bone which are being removed from their stratigraphic context.

On the basis of previous subsurface testing and more systematic excavation, there appeared to be several spatially discrete archaeological components within deeply stratified aeolian deposits. Poorly defined and thin stratigraphic conditions predominate the physical context of most known prehistoric archaeological sites in Jasper National Park. Thus, the opportunity of spatial and temporal control over prehistoric archaeological data underscored the urgency of rescuing that information before its irretrievable loss.

Systematic surface collection of artefacts, several subsurface (50 cm by 50 cm) tests, and 12 one metre by one metre excavation units (averaging between 1-1.5 m in depth below surface) were completed at one locality in 1995. Three stratigraphically discrete components or occupations were discernable, the lowest of which appears below an ash horizon identified provisionally as Mazama tephra.

With the completion of four years of archaeological field work at Fort Edmonton, the University of Alberta was in search of a new venue for their archaeological field training credit course for the summer of 1996. Facilitated by staff from the Parks Canada Archaeological Services Unit in Calgary, a partnership was created whereby Jasper National Park would host a field school to be taught by the University's Department of Anthropology in cooperation with Parks Canada archaeologists.

The goal of the field school is to provide a wide range of archaeological field training as well as classroom and laboratory instruction while operating within the Parks Canada policies of ecosystem and cultural resource management. From July 15 to August 21, 12 undergraduate students were introduced to the basic methods of archaeological reconnaissance, surveying, mapping, excavation, and laboratory analyses through practical training at a variety of prehistoric and

View of eroding face river terrace and archaeological site above Snake Indian River, Jasper National Park with test excavation in progress.



historic sites within Jasper National Park. Given the productive results of the 1995 field work, it was decided that the primary focus of training activities would be continuing the excavations begun by the Snake Indian River Threatened Sites Project, focusing on the aforementioned stratified prehistoric campsite (Francis and Hudecek-Cuffe 1996). The physical context of the study area is excellent for teaching the principles of stratigraphic excavation; 15 one by one metre units were excavated, with each student being responsible for their own unit.

Conclusions concerning the number of discrete occupations and their component assemblages await more detailed lithic analysis and correlation with the radiocarbon-dated stratigraphy of the site. Toward that end, one of the graduate student teaching assistants attached to the field school has agreed to utilize the data from this project to serve as the basis for graduate thesis research. This collaborative effort between Parks Canada and the University of Alberta is planned to continue over the next two years. The field school project has provided many benefits to all those involved with this partnership. The field school participants contribute directly to the acquisition of new archaeological information and problem solving which can be applied to the management of archaeological resources. In addition to serving as a vehicle for academic undergraduate degree training and advanced degree research, the field school project is proving to be an effective means to meet the Parks Canada mandate of protecting threat-

ened historically significant heritage resources within Jasper National Park.

References

- Beaudoin, Alwynne B., Milt Wright and Brian Ronaghan
1996 Late Quaternary Landscape History and Archaeology in the "Ice-Free Corridor": Some Recent Results from Alberta. *Quaternary International* 32:113-126.
- Francis, Peter D. and Caroline Hudecek-Cuffe
1996 The Jasper Archaeology Field School: A Parks Canada—University of Alberta Partnership. *Research Links* 4(3):8-10. Parks Canada, Calgary
- Francis, Peter D. and E. Gwyn Langemann
1993 Cultural Resource Management and Archaeological Research Initiatives at the Christensen Site, Banff National Park. *Parks Canada Research Bulletin* No. 303. Parks Canada, Ottawa.
- Francis, Peter D. and Martin P.R. Magne
1993 Archaeological Fieldwork at Ya-Ha-Tinda. *Research Links* 1(3):11-13. Parks Canada, Calgary.
- Lindsay, Charles
1988 Threatened *In Situ* Archaeological Assets of the Canadian Parks Service. Unpublished report on file, Parks Canada, Archaeological Services, Calgary.
- Ronaghan, Brian
1993 The James Pass Project: Early Holocene Occupation in the Front Ranges of the Rocky Mountains. *Canadian Journal of Archaeology* 17:85-91.

Peter D. Francis is Archaeologist with Professional and Technical Services, Parks Canada, Calgary.

Sharon Thomson

Life on the Edge The Cultural Value of Disappearing Sites

The name Parks Canada has long been synonymous with an extensive system of National Parks well known for their natural beauty and diversity of wildlife. Less publicized, however, is Parks Canada's role as custodian of cultural resources, both within Canada's National Parks and National Historic Sites. Since the organization's inception over 100 years ago, a variety of policies has been developed to provide guidelines for the management of those cultural resources. These guidelines have traditionally been disci-

pline-specific, depending on the training of the people who produced them. Thus, cultural resources have been managed in accordance with archaeological, curatorial and built heritage guidelines. It wasn't until the early 1990s that the development of an official Cultural Resource Management Policy provided the first agency-wide guidelines for all cultural resources on lands administered by Parks Canada.

These new guidelines provide Parks staff with a means to ensure the protection and presentation of Canada's cultural resources. It also provides a kind of framework to help managers define where the importance of those cultural resources lies and forces them to evaluate proposed actions which would have an impact upon those values. As the CRM policy becomes a part of daily operational decisions, managers are re-examining actions which once would have been taken as a matter of course. In the process, some interesting situations with broader implications have come to light.